What is claimed is:

1. A loop antenna comprising:

a conductor configured in a loop of one or more turns; and

at least one phase compensation element coupled to said conductor along a length of said conductor.

2. The loop antenna of claim 1, wherein said at least one phase compensation element comprises a capacitor.

3. The loop antenna of claim 2, wherein a total capacitance of said at least one phase compensation element is configured for tuning a resonant circuit associated with said antenna to a predetermined excitation frequency.

4. The loop antenna of claim 1, comprising a plurality of said phase compensation elements.

5. The loop antenna of claim 4, wherein said phase compensation elements are equidistantly spaced along said length of said conductor.

6. A nested loop antenna system comprising:

a first antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor.

7. The nested loop antenna system of claim 6, wherein a first plurality of said phase compensation elements are disposed along said first conductor, and a second plurality of said phase compensation elements are disposed along said second conductor.

8. The nested loop antenna system of claim 7, wherein at least one of said first and second plurality of said phase compensation elements comprises a discrete capacitor.

9. The nested loop antenna system of claim 6, wherein a plurality of said phase compensation elements are spaced equidistantly along said second conductor.

10. The nested loop antenna system of claim 6, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said second conductor.

11. The nested loop antenna system of claim 6, wherein a plurality of said phase compensation elements are spaced equidistantly along said first conductor.

12. The nested loop antenna system of claim 6, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said first conductor.

13. The nested loop antenna system of claim 6, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength.

14. The nested loop antenna system of claim 13, wherein said first length of said first loop is greater than $1/5^{th}$ of said wavelength.

15. The nested loop antenna system of claim 13, wherein said first length of said first loop is greater than $2/5^{th}$ of said wavelength.

16. The nested loop antenna system of claim 13, wherein said excitation frequency is 8.2 MHz, said wavelength is 36.6 meters, and said second length is greater than 6.1 meters.

17. The nested loop antenna system of claim 13, wherein said excitation frequency is 13.56 MHz, said wavelength is 22.12 meters, and said second length is greater than or equal to 4 meters.

18. The nested loop antenna system of claim 13, wherein said second length of said second loop is greater than $1/10^{th}$ of said wavelength.

19. The nested loop antenna system of claim 6, wherein said first and second conductors comprise the same material.

20. The nested loop antenna system of claim 6, wherein said first and second conductors are connected in series.

21. The nested loop antenna system of claim 6, wherein said first and second loops are generally rectangular.

22. The nested loop antenna system of claim 6, wherein said at least one phase compensation element comprises a capacitor.

23. A method of reducing current variation along a length of a loop antenna, said method comprising:

providing an excitation current to said loop antenna; and

controlling said excitation current along said length of said loop antenna by providing at least one phase compensation element along said length of said loop antenna.

24. The method of claim 23, wherein said controlling said excitation current comprises controlling said excitation current along said length of said loop antenna such that a maximum excitation current level at a first point along said length of said loop antenna differs from a minimum current level at a second point along said length of said loop antenna by less than a predetermined amount.

25. The method of claim 24, wherein said predetermined amount is 5%.

26. An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a loop antenna, said loop antenna comprising a conductor configured in a loop of one or more turns and at least one phase compensation element coupled to said conductor along a length of said conductor.

27. The system of claim 26, wherein said at least one phase compensation element comprises a capacitor.

28. The system of claim 26, said system comprising a plurality of said phase compensation elements disposed along said length of said conductor.

29. An electronic article surveillance (EAS) system comprising:

a first antenna; and

a second antenna spaced from said first antenna to establish an interrogation zone,

at least one of said first and second antennas comprising a first loop antenna comprising a first conductor having a first length configured in a first loop of at least one turn, and a second loop antenna comprising a second conductor having a second length configured in a second loop of at least one turn, said second loop being disposed within said first loop; and

at least one phase compensation element coupled along at least one of said first length of said first conductor and said second length of said second conductor.

30. The system of claim 29, wherein a first plurality of said phase compensation elements are disposed along said first conductor, and a second plurality of said phase compensation elements are disposed along said second conductor.

31. The system of claim 30, wherein at least one of said first and second plurality of said phase compensation elements comprises a discrete capacitor.

32. The system of claim 29, wherein a plurality of said phase compensation elements are spaced equidistantly along said second conductor.

33. The system of claim 29, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said second conductor.

34. The system of claim 29, wherein a plurality of said phase compensation elements are spaced equidistantly along said first conductor.

35. The system of claim 29, wherein first, second and third ones of said phase compensation elements are spaced equidistantly along said first conductor.

36. The system of claim 29, wherein said first loop is configured for excitation by an excitation source at a predetermined excitation frequency, said predetermined excitation frequency having an associated wavelength in free space, and wherein said first length of said first loop is greater than $1/10^{th}$ of said wavelength.

37. The system of claim 36, wherein said first length of said first loop is greater than $1/5^{th}$ of said wavelength.

38. The system of claim 36, wherein said first length of said first loop is greater than $2/5^{th}$ of said wavelength.

39. The system claim 36, wherein said excitation frequency is 8.2 MHz, said wavelength is 36.6 meters, and said second length is greater than 6.1 meters.

40. The system of claim 36, wherein said excitation frequency is 13.56 MHz, said wavelength is 22.12 meters, and said second length is greater than or equal to 4 meters.

41. The system of claim 36, wherein said second length of said second loop is greater than $1/10^{th}$ of said wavelength.

42. The system of claim 29, wherein said first and second conductors comprise the same material.

43. The system of claim 29, wherein said first and second conductors are connected in series.

44. The system of claim 29, wherein said first and second loops are generally rectangular.

45. The system of claim 29 wherein said at least one phase compensation element comprises a capacitor.